



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF PREVENTION,  
PESTICIDES, AND TOXIC  
SUBSTANCES

**Chemical:** Sulfometuron methyl  
**PC Code:** 122001  
**DP Barcode:** D346168

**MEMORANDUM**

**DATE:** July 16, 2008

**SUBJECT:** Response to Public Comments: Sulfometuron Methyl Reregistration  
(Vegetative Management and Other Non-crop Uses)  
Ecological Risk Assessment

**FROM:** Keith G. Sappington, Biologist  
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**THRU:** Mah Shamim, Branch Chief  
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**TO:** Russell Wasem, Review Manager  
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This memorandum summarizes the Environmental Fate and Effects Division's (EFED) response to public comments on the November 28, 2007 draft of the environmental risk assessment for reregistration of sulfometuron methyl (D346171). Comments on the environmental risk assessment were submitted by one institution, the National Council for Air and Stream Improvement, Inc. (NCASI). Our summary and response to these comments are provided below.

**Comment:** The models used in the environmental risk assessment (EXAMS and PRZM) are, by nature, conservative, even for the agricultural applications to which they were designed to apply. In addition to following any specifications on the herbicide product label, forestry operations are also conducted in accordance with Best Management Practice (BMP) guidelines that mandate practices such as the creation of buffer zones

around water bodies, designed to prevent movement of herbicides into surface water through either spray drift or runoff. Thus, assumptions such as the application areas being cropped at 100% do not apply to forestry application scenarios.

**Response:** In the environmental risk assessment for sulfometuron methyl, EFED has noted that certain aspects of the exposure and effects assessment are conservative by design, in order to serve as an effective screen for potential ecological risks. However, there are also aspects that may not be conservative. For example, only a small subset of species potentially exposed to sulfometuron methyl have undergone toxicity testing. The current assessment relies on the most sensitive tested species, but other untested species may be more sensitive than those tested.

Regarding the consideration BMPs and the use of buffers, there is no mandate on the product label to implement buffers when using sulfometuron methyl and therefore, this assumption was used in the environmental risk assessment. Furthermore, buffers may not always be effective in reducing loadings of pesticides in streams via runoff, particularly for hydrophilic and highly soluble compounds like sulfometuron methyl. Terrain, soil type, and vegetative type and state are all important factors affecting whether the amount of runoff of a pesticide is affected significantly by the presence of buffer strips. EFED did consider the potential impact of buffers on spray drift, but lacks a model to address buffer impacts on erosion and runoff due to the complexity of this exposure route.

Lastly, EFED does not currently have adequate data to support an adjustment for the % watershed area treated in forestry (or other uses) that can provide an adequately conservative representation of US watersheds with forestry land use. Given the small size of the watershed modeled (10 ha), it is not unreasonable to expect some forest applications to involve the entire watershed of a 1 ha pond. In the context of conducting a screening-level environmental risk assessment, EFED considers the assumption of 100% treated for a small 10 ha watershed to be reasonable.

**Comment:** On page 44 (Section 3.2.2.1) of the ecological risk assessment, it is reported that Michael (2003) “found, after application of sulfometuron methyl at 0.42 kg/ha to watersheds of unspecified area (reflecting a forestry planting usage) that concentrations of sulfometuron methyl in runoff water collected at the edge of the field reached a maximum of 49 ug/L (24-hour average).” Although this was cited in the body of the document, it was not listed in the reference section. However, it appears that the citation refers to a paper published by J. L. Michael in the *Journal of Environmental Quality* (32:456-465, 2003). If so, then the 49 ug/L in runoff water was from a site treated with an experimental pelleted formulation that was dropped from consideration for registration by the manufacturer. On the experimental site treated with Oust, only 12.5% of the runoff water samples collected contained quantifiable residues of sulfometuron methyl and the maximum 24-hour average concentration was less than 30 ug/L. In addition, the risk assessment inaccurately identifies 1 ug/L as the minimum detection limit from the study. It was actually 0.2 ug/L.

**Response:** The citation for Michael (2003) has been added to the reference section of the document. Regarding the difference between detection limits, the 1 ug/L refers to the limit of quantification whereas the 0.2 ug/L refers to the limit of detection. The former refers to the ability to quantify concentrations with a specific level of accuracy and precision, whereas the latter simply refers to the level at which the pesticide can be detected, but not necessarily accurately quantified. Additional clarification of the type of application (sprayed vs. pelleted) and the 1 ug/L level of quantification has been added to the document.